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# DOE STANDARD

# SAFETY AND HEALTH PROGRAM FOR DOE CONSTRUCTION PROJECTS



**U.S. Department of Energy**  
**Washington, D.C. 20585**

**AREA OCSH**

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### FOREWORD

1. This Department of Energy standard is approved for use by all DOE Components and their contractors.
2. Beneficial comments (recommendations, additions, deletions) and any pertinent data that may improve this document should be sent to the Office of Nuclear Safety Policy and Standards (EH-53), U.S. Department of Energy, Washington, DC 20874, by letter or by using the self-addressed Document Improvement Proposal form (DOE F 1300.3) appearing at the end of this document.
3. DOE Technical Standards, such as this standard, do not establish requirements. However, all or part of the provisions in a DOE standard can become requirements under the following circumstances:
  - (a) they are explicitly stated to be requirements in a DOE requirements document;  
or
  - (b) the organization makes a commitment to meet a standard in a contract or in an implementation plan or program plan required by a DOE requirements document.
4. Throughout this standard, the word "shall" is used to denote actions which must be performed if the objectives of this standard are to be met. If the provisions in this standard are made requirements through one of the two ways discussed above, then the "shall" statements would become requirements. It is not appropriate to consider that "should" statements would automatically be converted to "shall" statements as this action would violate the consensus process used to approve this standard.

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## 1.0 INTRODUCTION

### 1.1 Scope

This standard provides a framework for a construction safety program for use on DOE construction projects that will comply with the requirements of DOE Order 440.1A, Worker Protection Management for DOE Federal and Contractor Employees, its accompanying Guide, DOE G 440.1-2, Construction Safety Management Guide For Use With DOE Order 440.1, and DOE Policy 450.4, Safety Management System Policy.

### 1.2 Purpose

The intent of this standard is to provide an effective methodology for managing the hazards inherent to construction work in a systematic manner that can be easily integrated with the management of other technical aspects of a construction project. It is written in a manner that facilitates its direct incorporation into the specifications of construction contracts between the DOE and construction contractors or DOE M&O contractors and their construction subcontractors.

### 1.3 Applicability

This standard applies to construction contractors and their subcontractors performing work on DOE construction projects.

### 1.4 References

- (a) 29 CFR 1926.14, which prescribes that construction safety standards apply to the construction portions of Federal contracts for mixed performance (e.g., a contract for both manufacturing and construction services).

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- (b) 29 CFR 1926.59, HAZARD COMMUNICATION, which provides the OSHA standard for the evaluation of and the protection from hazardous chemicals.
- (c) Federal Acquisition Regulation (FAR), Part 36, which establishes policies and procedures for federal contracting for construction and architect-engineer services.

### **1.5 Definitions**

- (a) CONSTRUCTION is any combination of erection, installation, assembly, demolition, or fabrication activities involved to create a new facility or to alter, add to, rehabilitate, dismantle, or remove an existing facility. It also includes the alteration and repair (including dredging, excavating, and painting) of buildings, structures, or other real property, as well as any construction, demolition, and excavation activities conducted as part of environmental restoration or remediation efforts. This does not involve the manufacture, production, finishing, construction, alteration, repair, processing or assembling of items categorized as personal property (refer to FAR 36.102).
- (b) CONSTRUCTION CONTRACTOR is the first-tiered contractor or subcontractor who has been awarded the contract to perform all construction activities described in the construction project acquisition documents.
- (c) CONSTRUCTION MANAGER is the individual or firm responsible to DOE for the supervision and administration of a construction project to ensure the construction contractor's compliance with requirements set forth in the construction project acquisition documents.
- (d) CONSTRUCTION PROJECT is the full scope of activities required on the construction worksite to fulfill the requirements of the construction project

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acquisition documents. Construction projects also include those construction activities performed in support of or as part of maintenance, manufacturing, decontamination and decommissioning (refer to DOE-STD-1120-98), or environmental restoration or remediation efforts (refer to Title 29 CFR 1926.14). In cases where multiple solicitations are used to perform construction on or of a facility, those services described within each solicitation shall be deemed a project for the purposes of application of the construction safety and health program requirements of this Standard.

- (e) CONSTRUCTION PROJECT ACQUISITION DOCUMENTS are the documents by which construction services to be procured are described and solicited. These include the request for proposal or the invitation for bids, the plans and specifications and other standards referenced therein, work orders, or other requisitions for construction services.
- (f) CONSTRUCTION SUPERINTENDENT is the individual designated by the construction contractor as responsible for the performance of all aspects of the work described in the project documents including implementation of the project safety and health program. He shall have full authority to act for the Construction Contractor.
- (g) CONSTRUCTION WORKSITE is the area within the geographic limits necessary to perform the work described in the construction project acquisition documents. It includes the facility being constructed or renovated along with all necessary staging and storage areas as well as adjacent areas subject to project hazards. It does not include offsite offices of design personnel nor the facilities of fabricators or suppliers.
- (h) HOST is the contractor or organization with the primary landlord responsibility at a DOE sponsored facility.

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- (i) PROJECT MANAGER is the DOE official responsible for assuring that all construction project activities are carried out in compliance with Federal, State, and local regulations, laws and standards for protection of the safety and health of employees and the public.
  
- (j) PROJECT PHASE is a separately definable portion of a project involving a type of work presenting hazards not experienced in previous project operations or an operation performed by a different subcontractor.

### **2.0 PROJECT SAFETY AND HEALTH PROGRAM**

#### **2.1 General**

The construction contractor shall establish and maintain a program to protect the safety and health of all persons on the construction worksite to include his or her employees, employees of other contractors or subcontractors, visitors and the public. This program also shall protect against damage to property, materials, supplies, and equipment and prevent unnecessary work interruptions. The objective of the program is to ensure compliance by the construction contractor and all worksite subcontractors with the safety and health standards prescribed in the construction project acquisition documents.

#### **2.2 Project Safety and Health Plan**

- 2.2.1 Prior to commencing any work on the project worksite, the construction contractor shall prepare and have approved by the construction manager a written project safety and health plan. This plan is the construction contractor's proposal for implementing the safety and health requirements prescribed by the construction project acquisition documents. The plan need not duplicate any preexisting host

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safety and health policies or procedures by the contract. The plan shall address minimally the following:

- (a) Statement of construction contractor safety and health policy.
- (b) Employee rights and responsibilities.
- (c) Identity of construction superintendent and other construction contractor personnel to be assigned safety and health duties on the worksite, their qualifications, and their respective duties. The plan shall also identify any other individual(s) the construction contractor proposes to authorize to act during periods of construction superintendent absence.
- (d) A list of all anticipated project phases, as well as annotation of those project phases for which DOE-prescribed safety and health standards (refer to DOE Order 440.1A) or the construction project acquisition documents require that protective measures be designed, inspected, implemented or approved by a Professional Engineer or other qualified person.
- (e) Proposed format and methodology for performing hazard analyses.
- (f) Plans for worksite safety and health orientation and continued safety training.
- (g) Disciplinary policy.
- (h) Alcohol and drug abuse policy.
- (i) Host safety and health policies or procedures applicable to the project (e.g., confined space, lock out/tag out).

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- (j) Procedures for interfacing with other site contractors on safety and health issues.
  - (k) Project hazard communications program (refer to 29 CFR 1926.59).
  - (l) General construction hazards and the applicable policies and procedures for addressing these hazards.
  - (m) Use and maintenance of personal protective equipment generally required on the project worksite (e.g., hard hats, eyewear, protective footwear).
  - (n) First aid and medical facilities.
  - (o) Fire prevention and control.
  - (p) Emergency response procedures to include local warning and evacuation systems.
  - (q) Procedures for reporting or correcting unsafe conditions or practices.
  - (r) Procedures for reporting and investigating accidents and incidents.
  - (s) Project safety and health recordkeeping procedures.
  - (t) Maintenance of and employee access to exposure monitoring data and medical records.
- 2.2.2 The approved project safety and health plan shall be maintained on the worksite and shall be made available upon request to the construction manager, project

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manager, worksite employees, employee representatives, and other DOE personnel with assigned oversight responsibilities.

### **2.3 Construction Superintendent Responsibilities**

- 2.3.1 The construction superintendent is responsible for implementation of the project safety and health plan. The superintendent or another duly designated construction contractor representative must be present on the worksite during the performance of any project work activities (refer to FAR 36.506 for fixed-price construction and FAR 36.519 for cost reimbursement construction).
- 2.3.2 In no case shall the requirement for or the presence of dedicated project safety and health personnel relieve the construction superintendent of full and complete responsibility for compliance with all project safety and health requirements.
- 2.3.3 The construction superintendent is responsible for ensuring that all project subcontractors comply with project safety and health requirements. The construction superintendent is further responsible for coordinating with project subcontractors and other site contractors those safety and health plan elements addressing worksite hazards to which employees of other contractors may be exposed.

### **2.4 Hazard Analysis**

Prior to commencement of work on any project phase, the construction contractor shall prepare and have approved by the construction manager a detailed analysis of all hazards associated with that phase (see Figure 1 for sample format). The number of phases for which a hazard analysis is required is not limited to those identified in the project safety and health plan as the actual number of phases may differ from the

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anticipated number due to variations in subcontractors, construction operations, or job sequence. For each project phase, the hazard analysis shall:

- (a) Identify the specific hazards, including the use or presence of any hazardous chemicals, associated with each activity to be performed as well as the actual corrective measures planned to control these hazards. Guidance for the performance of such hazard analyses is provided in an OSHA pamphlet entitled "Job Hazard Analysis" available online at: <http://www.osha-slc.gov/Publications/Osha3071.pdf>. In planning controls to address identified hazards, due consideration shall be given to the hierarchy of controls (i.e., engineering controls, administrative controls and personal protective equipment) as described in DOE Order 440.1A.
- (b) Include drawings and/or other documentation for all protective measures for which the construction project acquisition documents or applicable safety and health standards prescribe preparation by a Professional Engineer or other qualified person.
- (c) List all equipment to be used for which applicable standards require periodic or preoperational inspections.
- (d) Identify specific inspections as required by the construction project acquisition documents or applicable safety and health standards and provide the qualifications of the competent person(s) who will conduct these inspections .
- (e) Identify any prerequisite employee training or certifications needed to accomplish the activities listed for each project phase.

## Hazard Analysis

PROJECT PHASE: \_\_\_\_\_

ANALYZED BY/DATE: \_\_\_\_\_

APPROVED BY/DATE: \_\_\_\_\_

ACTIVITY	POTENTIAL SAFETY/HEALTH HAZARDS	PLANNED CONTROLS
<i>Identify each principal activity for the project phase in sequence.</i>	<i>List the hazards associated with each principal activity.</i>	<i>List specific controls for each potential hazard (engineering controls, administrative controls or personal protective equipment).</i>
SAMPLE FORM		
EQUIPMENT INSPECTIONS	JOBSITE INSPECTION REQUIREMENTS	TRAINING REQUIREMENTS
<i>List equipment requiring preoperational or periodic inspections.</i>	<i>List specific jobsite inspection requirements to include identity and qualifications of competent person(s) or other qualified personnel performing inspections.</i>	<i>List worker training requirements, including hazard communication.</i>

Figure 1

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### **2.5 Employee Training**

The construction contractor shall ensure that each employee entering the worksite has, through experience, training and, where required, certification, the skills and knowledge necessary to safely perform his or her assigned tasks. This training shall include an initial worksite safety and health orientation, phase specific training addressing foreseen hazards and control measures associated with each phase of work upon which the employee is active, and continued safety and health "tool box" training. All training should be conducted by qualified personnel and should be communicated in a language understood by all employees.

#### **2.5.1 Worksite Safety and Health Orientation.**

- 2.5.1.1 Each employee shall receive an initial safety and health orientation prior to performing any work on the project worksite. The orientation shall include a detailed review of the contents of the approved project safety and health plan, including provisions for subsequent employee access to the plan.
- 2.5.1.2 Construction contractors with a continual onsite presence or with multiple projects utilizing the same work force may provide the orientation prior to commencing work on the employee's first onsite project and on a periodic basis, as determined locally, thereafter. Orientation on items that vary from project to project shall be provided for each project.

#### **2.5.2 Phase Specific Training**

Prior to commencing any phase of work, the construction contractor shall review the approved hazard analysis for that phase with all employees on the affected work crew and provide training to ensure that all employees understand the potential hazards and the required protective measures. A copy of each phase's hazard analysis shall

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be annotated with the name, signature, and date of attendance of all workers who have attended this training. The construction contractor shall provide advance notice to the construction manager for all phase specific training sessions. Further phase specific training sessions shall be conducted for new employees on the work crew, under changing site conditions, or at the discretion of the construction manager to reinforce project safety and health requirements.

### **2.5.3 "Tool Box" Safety and Health Training**

The construction contractor shall conduct informal "tool box" safety and health training sessions at least weekly for all employees on the worksite. Depending on the size and nature of the project, this may be accomplished in single or multiple sessions and may address different topics for different work crews. The construction contractor shall notify the construction manager of the time and location of all scheduled "tool box" training sessions. Outlines of all "tool box" training sessions shall be prepared by the construction contractor and annotated with the date, time, and names of all employees in attendance.

### **2.5.4 Training Records**

The construction contractor shall ensure that records of all required training are maintained and made available, upon request, to the construction manager, project manager and other DOE personnel with assigned oversight responsibilities.

## **2.6 INSPECTIONS AND HAZARD ABATEMENT**

2.6.1 During periods of active construction, the construction contractor shall ensure that competent persons conduct frequent and regular inspections of their respective areas of the worksite to identify and correct hazards and instances of noncompliance with project safety and health requirements and approved hazard

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analyses. The superintendent and other project supervisory staff shall also include safety as part of their routine review of project operations.

2.6.2 The construction contractor shall take immediate corrective action to eliminate or control all identified hazards. Newly identified hazards shall be appropriately addressed in revised hazard analyses. In cases where immediate corrective action is not possible or responsibility for abatement falls outside the scope of the project, the construction contractor shall:

- (a) Immediately ensure all affected employees are aware of the hazard and its location and removed from harm's way. This may require partial or complete suspension of construction operations.
- (b) Immediately post warning signs at the location of the hazard describing the nature of the hazard.
- (c) Verbally notify the construction manager immediately of the location and description of the hazard. This notification shall be followed up in writing.
- (d) Implement further interim control measures, as needed, to protect employees from the identified hazards and secure construction manager approval for continued use of the employed measures.
- (e) Where responsibility for abatement falls outside the project scope, the construction contractor shall also immediately notify the authority responsible for safety and health management in the affected facility.

2.6.3 All identified hazards and their respective corrective actions shall be documented in project inspection reports. The responsibility and timetable for abating hazards that were not immediately corrected shall also be similarly documented. Follow-

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up inspections to ensure subsequent abatement of such hazards should be likewise documented.

### **2.7 REPORTING, RECORDKEEPING, AND ACCIDENT INVESTIGATION.**

The construction contractor shall comply with reporting, recordkeeping, and accident investigation requirements prescribed in the construction project acquisition documents or applicable DOE Orders.

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**CONCLUDING MATERIAL**

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